

Notice of Allowability

Application No.

09/734,591

Examiner

James A. Thompson

Applicant(s)

NISHIDA, HIROBUMI

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 19 March 2007 and 17 April 2007.
2. ☒ The allowed claim(s) is/are 1-34.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 4/17/07
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


DAVID MOORE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

James A. Thompson
Examiner
Technology Division 2625

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 15-20, filed 19 March 2007, with respect to the rejections under 35 USC §103(a) have been fully considered and are persuasive. The rejections under 35 USC §103(a) listed in items 3-8 of the previous office action, mailed 12 January 2007, have been withdrawn. Applicant's present amendments to the claims distinguish over the previously cited prior art references. Furthermore, the present application is now considered in condition for allowance for the reasons set forth below.

Allowable Subject Matter

2. **Claims 1-34 are allowed.**

The following is an examiner's statement of reasons for allowance:

Independent claim 1 recites a method in which (1) edge detection information is determined, (2) background color of a single side of a document is estimated based on said edge detection information with respect to a portion with low intensity of the detected edge from the single side of the document, (3) thresholding is performed so that the detected low intensity edge is removed as show-through image data and replaced with the determined background color, and (4) the show-through removed image data is generated without using data from the opposite side of the document and without degradation of the image printed on said single side of the document. In the cited prior art, namely Matsuda (USPN 6,285,470) in view of Zuniga (USPN 5,280,367), show-through image data is removed based on a histogram process which performs thresholding of the image data based on detected show-through image data. However, this process necessarily degrades the resultant show-through removed image, largely due to the fact that the process taught by the cited prior art combination is a histogram based process. The present application operates based on edge detection and the intensity of said edge detection in the document space, and does not operate based on a histogram. Thus, the method recited in claim 1 does not degrade the image. Therefore, claim 1 distinguishes over the prior art of record.

Additionally, the combination of features set forth above has not been found by Examiner in the prior art. Other types of show-through image removal are found in the prior art, but do not fully teach the invention recited in claim 1. For example, Knox (USPN 6,101,283) teaches show-through removal in which there is degradation of the image printed on the single side of the document. However, it is

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essential to the operation of the system of Knox that the image data from the opposite side of the document be read. Without reading the image data from the opposite side of the document, show-through image removal is impossible in Knox. Another example of similar prior art is MacLeod (USPN 5,778,092) which teaches a system which detects the edges of a single side of a document, including the edges corresponding to show-through image data (called "bleed-through" in MacLeod), but does not attempt to remove the show-through image data from the single side of the document.

Since claim 1 distinguishes over the cited prior art and no additional prior art anticipates claim 1 and/or renders claim 1 obvious to one of ordinary skill in the art at the time of the invention, claim 1 is deemed to be allowable over the prior art.

Independent claim 12, 23 and 34 are deemed allowable for reasons similar to those given above for claim 1. Dependent claims 2-11, 13-22 and 24-33 are deemed allowable owing to their respect dependencies.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is 571-272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner
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JAT
29 May 2007



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